TECHNICAL BOOK REVIEW INDEX

Published monthly, except July and August, by Special Libraries Association. Second class mail privileges authorized at Pittsburgh, Pennsylvania. Compiled and edited in the Technology Department, Carnegie Library of Pittsburgh, 4400 Forbes St., Pittsburgh 13, Pa. Subscriptions, renewals, and orders for back numbers should be sent to Special Libraries Association, 4400 Forbes St., Pittsburgh 13, Pa., or 31 East Tenth St., New York 3, N. Y. Price $7.50 a year in the United States; $8 elsewhere.

ANTHONY A. MARTIN, *Editor*

Volume 22 **October 1956** **No. 8**

THE purpose of the Technical Book Review Index is primarily to identify reviews in current scientific, technical, and trade journals; secondarily, when feasible, to quote from these reviews. In the evaluation of scientific and technical books, reviews constitute the best existing source of information. The service of the Technical Book Review Index is thus in the field of evaluation, rather than in competition with existing publications which announce new and forthcoming books, list books by subjects, or supply bibliographic information. Each quotation immediately follows the name of the journal from which it is taken. Obviously, these brief extracts, detached from the context, must not be accepted as conclusive. Except for the correction of obvious errors, the bibliographic information is as given in the reviews. It is, therefore, in many cases incomplete and in some cases probably inaccurate.

Acheson, R. M.

Acridines. 409p. 1956. Interscience Publishers, New York, $12.50. (Chemistry of heterocyclic compounds monographs, v.9.)

Chemistry in Canada, Aug. 1956, p.68. ⅓ col.

"Provides the most complete and up to date survey of acridine and its derivatives. The monograph commences with an outline of the nomenclature and the somewhat confusing systems of numbering which have been used with the acridines. The preparation and properties of acridine and the more important derivatives are treated in detail. A chapter by L. E. Orgel surveys the visible, ultraviolet and infrared spectra of the acridines. Comprehensive chapters on acridine alkaloids, acridine dyes, and biologically active acridines, which include antibacterials and antimalarials, will appeal to the specialist. The volume will find its place on the shelves of the library which maintains a thorough coverage of the heterocyclic branch of organic chemistry." *W. J. Chute.*

Adam, Neil K.

Physical chemistry. 658p. 1956. Oxford, New York, $8.

Chemical age, June 30, 1956, p.1454. 1⅓ col.

"In this volume, Professor Adam has achieved to a remarkable extent . . . balance between the new material and the old. He has taken tremendous care to present the material with clarity and has produced a most readable and instructive book. Furthermore, he has resisted the temptation to turn the volume into a sort of handbook with snippets of information about various developments which do not properly fall within the scope of a basic course . . . Can be recommended most strongly for use as a standard textbook of physical chemistry." *C. Kemball.*

Chemical engineering, Sept. 1956, p.396. ⅝ col.

"A highly streamlined and coherent text of physical chemistry primarily for the undergraduate curriculum. The subject matter is treated in the classical manner. It encompasses the total of topics comprising the field, although the sequence varies slightly with American usage . . . Teachers of physical chemistry desiring a new, coherent text will take a good look at Adam's fine work. Researchers in chemistry and chemical engineering will find this British import very useful in refreshing their memory in areas where they've lost close touch or where their own instruction and knowledge has been spotty." *F. C. Nachod.*

Albert, Arthur Lemuel.

Electronics and electron devices. Ed.3, rewritten. 582p. 1956. Macmillan, New York, $8.

Electrical review, Aug. 31, 1956, p.394. ⅝ col.

"Third edition of 'Fundamental Electronics and Vacuum Tubes' first published in 1938 . . . Almost entirely rewritten and now includes a description of the theory of semi-conductor devices and chapters on transistors and their circuit applications. A chapter on magnetic amplifiers by J. J. Wittkopf has been included in view of their importance in control systems. Finally, two chapters on pulse circuits covering differentiation, integration limiting and other wave-shaping circuits have been inserted to complete the coverage . . . Illustrations . . . are well drawn and make their points clearly. There are also plenty of references to other books and original papers." *A. H. B.*

Electronics, Sept. 1956, p.430. 1⅓ col.

"An introductory treatment of electron devices and their underlying physical principles. In addition to the material usually presented in textbooks of this sort, chapters on semiconductor devices, wave shaping and control circuits, and magnetic amplifiers are also included . . . Although this book is too elementary for the college student, it may find use as a descriptive introduction to modern electronic devices for readers having some

familiarity with elementary algebra and who wish to obtain a passing acquaintance with the subject." *Armen H. Zemanian.*

Midwest engineer, Aug. 1956, p.26. ½ col.

"Semiconductor theory and the principles of semiconductor devices are presented in this text for the undergraduate students in electrical engineering. Albert gives special attention to the study of the fundamentals of electronics, the application of electronic principles to electronic devices, and the use of these devices in electric circuits. But this new edition, modified, practically rewritten, and descriptive material eliminated in favor of new material, retains the three main objectives of previous editions. It provides a textbook for junior and senior courses on basic electronics and electron devices, it is well balanced between theory and illustrative applications, and it is suited to the needs of students interested in the power field as well as those who are looking forward to careers in communication and control." *R. G. G.*

American Welding Society—Resistance welding committee.

Resistance welding; theory and use. 172p. 1956. Reinhold, New York, $4.50.

American machinist, Sept. 24, 1956, p.244, 246. ⅓ col.

"As thorough and comprehensive a book on the subject of resistance welding as it has been this reviewer's pleasure to encounter . . . The material has been prepared by outstanding authorities in the various fields, but every care has been taken to avoid abstruse language and to make the text readily understandable by readers without previous knowledge."

Iron and steel engineer, Sept. 1956, p.318, 320. ¼ col.

"Presents for the first time resistance welding in clear, everyday language so it can be understood without previous knowledge of welding. Yet, the subject is so thoroughly covered and so authoritative and up to date that it will interest welding engineers, metallurgists, designers and shop personnel. Included are full details of the six resistance-welding processes, machines, controls and electrodes, welding of different metals, weld quality, inspection and testing."

Product engineering, Aug. 1956, p.379. ⅓ col.

"Gives an understanding of the basic principles of resistance welding as vital to effective use of the process. The information supplied, while not all necessarily new, is the result of thoughtful evaluation and rational arrangement."

Steel processing, Sept. 1956, p.538. ⅓ col.

"The American Welding Society Resistance Welding Committee gathered material for the book on every aspect of the resistance welding processes and their use in welding different metals for applications in every kind of industry (automotive, aircraft, railroad equipment, refrigeration, radio, television, metal parts manufacture, etc.)."

Anderson, E. P.

Audels TV and radio service library. 2v. 1500p. Audel, New York, $6.

Radio & television news, Sept. 1956, p.172. ¼ col.

"These two new volumes in the *Audel* series of practical service manuals are packed with information on modern television receiver circuitry, radio receivers, electronic devices of various types, transistors and transistor circuits, as well as pertinent data on record changers, rectifiers, p.a. systems, tape recorders, phono pickups, FM auto radios, radio compasses, short wave gear, radar equipment, etc . . . Written in easy-to-understand form and . . . amplified by the lavish use of diagrams, charts, photographs, and other supplementary material."

Angerman, V. D.

How to find a buyer for your invention. 186p. 1956. Science & Mechanics Pub. Co., 450 E. Ohio St., Chicago, $2.95.

American machinist, Aug. 13, 1956, p.243. ½ col.

"This book makes a lot of sense. It's full of reasonable and fact-based advice that should prevent feather-brained inventors from wasting their own time, and should help inventors with something of value avoid many of the pitfalls in getting a good idea going . . . Whether it's simply an idea, a publishable item, or a real invention, this book may help in making it practical and profitable."

Aviation age, Sept. 1956, p.15. 8 l.

"Here's a book full of practical know-how for inventors—both actual and would-be. Part 1 on 'when and how to sell your invention' includes suggestions on patents, discussions with manufacturers and other ways to find buyers. Part 2, 'Where to Sell Your Invention,' is full of cross-indexed listings of products and manufacturers."

Chemical engineering, Sept. 1956, p.395. ⅔ col.

"If you're employed by a large company equipped with its own patent department, this book—except for its general informative content—is most probably not for you . . . If, on the other hand, you're an imaginative fellow (or gal) bursting with ideas that you think have commercial potential, but completely unfamiliar with the machinery involved in promoting said ideas, this handy little guide should set you on the right track . . . Though we wouldn't call this volume a reading 'must,' we do feel that it's worth more than a passing glance." *R. K. G.*

Plastics technology, July 1956, p.485. ⅔ col.

"Designed to give a practical and workable method for bringing a qualified inventor together with an equally qualified and interested manufacturer, the volume should be of great value to all inventors by giving them explicit directions on methods for seeking out and contacting manufacturers with the necessary capital, production facilities, and marketing know-how to put their ideas into practice."

Archer, Sellers G.

Soil conservation. 305p. 1956. Univ. of Oklahoma Press, Faculty Exchange, Norman, Okla., $3.75.

Soil science, Aug. 1956, p.176. 11 l.

"The author defines soil conservation, tells how to plan a soil conservation program, offers suggestions on cropland, grassland, and farm forestry, finds a place for wildlife, illustrates special conservation programs, and gives information as to how to get public assistance

. . . A well-developed bibliography is appended . . . A good guide to conservation practice."

Baba, Kazuo, ed.

General view of Japanese military aircraft in the Pacific War. 2v. v.1, 324p.; v.2, 190p. 1955. Hampton Bks., Hampton Bays, N. Y., $6.35.

Aeronautical engineering review, Sept. 1956, p.148. ¼ col.

"[Japanese text with separate English translation.] The combat records and construction details of 100 Japanese Army, Navy, and experimental aircraft are listed in this volume, with supplementary notes relating to their operational performance, to engine and airframe development, and to wartime production schedules in the home islands. Much of the text is devoted to a description of aerodynamic features, armament capacity, equipment, and continual remodification of front-line and home defense aircraft. Numerous photographs and three-view illustrations accompany the text. Included in the table of contents are the Japanese name, code name, type symbol, and the Allied code name for all the aircraft appearing in this book."

Baker, A. L. L.

Ultimate load theory applied to the design of reinforced and prestressed concrete frames. 91p. 1956. Concrete, London, $4.

Concrete, Aug. 1956, p.54. ⅛ col.

"Probably the first work published in the English language on design procedure according to the ultimate-load method . . . Discusses the probability of failure and its effects, and describes how a suitable factor of safety can be decided upon. The conception of plastic hinges, which permit full use to be made of the economies that are possible by the ultimate-load method of design, is fully described."

Baker, E. W., and others.

Parasitic mites. 170p. 1956. National Pest Control Assoc., 30 Church St., New York, $4.25.

Pest control, Sept. 1956, p.44. ⅔ col.

"An official technical publication of the National Pest Control Association, this manual was prepared for the NPCA by five government research entomologists . . . A broad, useful work, providing identification keys, and giving the importance, description, life history and control for each major species. Liberally illustrated with detailed drawings . . . For readers having a particular interest in one or more species, there are numerous references to other publications."

Baker, J. F., and others.

The steel skeleton. v.2: Plastic behaviour and design. 408p. 1956. Cambridge Univ. Press, London, 63s. net.

Engineering, Aug. 24, 1956, p.243. 1⅓ col.

"Professor Baker, in the preface . . . states that 'the attempt has been made to present a picture of the research rather than a textbook.' The picture is complex, but each part is explained by the authors in a straightforward, simple style that should appeal both to the practical engineer and to the research worker . . . Will undoubtedly become a classic, and a necessary reference book for all steelwork designers and others interested in the behaviour of steel structures."

Nature, Aug. 4, 1956, p.227. 1⅓ col.

"This volume brings the story of Vol. 1 . . . up to the present day. The Bristol and Cambridge researches are fully described; but many structural engineers, alive to recent developments, must already know the story, as it has appeared over the years in various technical journals . . . An instructive tale to those who have yet to read it; but most will turn with a sense of satisfaction to Chapters 7 and 8, where fundamental theorems and general methods of analysis, respectively, are discussed." *W. Fisher Cassie.*

Beitman, Morris N.

Simplified radio servicing by comparison method. 92p. Supreme Publications, 1760 Balsam Rd., Highland Park, Ill., $1.50 unbound.

Popular electronics, Oct. 1956, p.36. ⅛ col.

"The author's 'comparison method' for servicing receivers is a 'quickie' technique based on an acquaintance with basic circuit types. This manual outlines the procedures and presents schematics, tube diagrams, and related data on a number of representative circuits. The approach is 'practical' with little mention of theory or mathematics . . . An aid to beginning servicemen."

Technician & circuit digests, Sept. 1956, p.70. 10 l.

"For the learner with some background already in electronics, this text attempts to cover the practical ground in service procedures for all types of radio receivers, including AM, FM and communication types, and other varieties of electronic equipment, such as intercoms, PA gear and other sound systems. Emphasis is placed on minimum use of test equipment and minimum theory."

Benedetti-Pichler, A. A.

Essentials of quantitative analysis; an introduction to the basic unit operations. 666p. 1956. Ronald, New York, $15.

Chemical age, Aug. 4, 1956, p.219. 1⅔ col.

"The reviewer feels . . . it is some time since he has met a general textbook on analytical chemistry which he could regard with the same wholehearted approval. This results from the fact that the author has, in many ways, cut completely loose from the accepted textbook treatment of analytical chemistry . . . Instead of dealing seriatim with all the many techniques now utilised by the analytical chemist . . . Benedetti-Pichler has broken down the various methods into a series of unit operations . . . Every student of chemistry should be thoroughly familiar with . . . [the book]. And since it is fully documented with references and bibliographies, every practising analytical chemist will find it of continuing value." *Cecil L. Wilson.*

Journal of the Association of Official Agricultural Chemists, Aug. 15, 1956, p.897. ½ p.

"Full emphasis has been placed by Professor Benedetti-Pichler on unit operations. Not only does the book explain the 'how' and the 'why,' but it also stresses accuracy and reproducibility of results. In these respects it certainly fulfills the basic requirements of a good course

in quantitative analysis . . . Not a reference book for quantitative procedures, either inorganic or organic. It does contain a wealth of material that is extremely useful for training students in quantitative analysis, as well as graduates in chemistry who may not have acquired full facility in basic unit operations." *Frederick M. Garfield.*

Berkeley, Edmund Callis, & **Wainwright,** Lawrence.
Computers; their operation and applications. 366p. 1956. Reinhold, New York, $8.

Aeronautical engineering review, Aug. 1956, p.161. ¼ col.

"A book for mechanical, electrical, electronic, and chemical engineers, physicists, and technicians . . . Presents the newest developments in both the techniques and equipment of automatic computing. All the basic elements of digital, analog, and miniature computers are explained, as well as computer reliability, advantages, limitations, and maintenance . . . A sequel to Berkeley's *Giant Brains or Machines that Think.*"

Electrical journal, Aug. 31, 1956, p.634. ½ col.

"From the first definition of a computer . . . to the 36-page glossary of terms used in automatic computing, that completes the text, this book is a practical down-to-earth exposition of how these machines work and what they can do . . . There is some unevenness in presentation in the book, however, through endeavouring to make its appeal to too wide a circle of readers."

Food engineering, Sept. 1956, p.192. ¼ col.

"Of special interest to management, engineers, and technicians, this book provides a simple and practical guide to automatic computers and their potential applications . . . Included is a checklist of computer literature, a listing of sales or renting agencies, and a glossary of terms and expressions peculiar to the computer and allied fields."

Textile world, Sept. 1956, p.286. 9 l.

"The newest developments in both the techniques and equipment of automatic computing are described, illustrated, and compared . . . How the machines work and what they can do are fully gone into . . . Should be valuable to engineers and technicians concerned with computing problems in all industries."

Bevitt, William D.
Transistors handbook. 410p. 1956. Prentice-Hall, Englewood Cliffs, N. J., $9.

Proceedings of the I.R.E., Sept. 1956, p.1202. ⅔ col.

"A reading of the text leads one to believe that it is as yet *too early* to prepare a really complete transistor handbook. The most significant comment which might be made about *Transistors Handbook* is that it is written on too practical a level to be of real utility to the transistor apparatus engineer . . . Notwithstanding the foregoing, the book should be of great interest to a large portion of the author's intended audience . . . Will be helpful to '. . . experimenters, radio amateurs, radio and television servicemen, engineering students . . . Meanwhile it would appear as though the transistor apparatus engineer must wait a while longer before all his source material and notes are gathered within a single volume." *R. P. Burr.*

Tele-tech & electronic industries, Aug. 1956, p.58. ⅔ col.

"Sums up, in a practical manner, the most recent information on transistors, their circuits, and their applications in modern industry . . . Mr. Bevitt, himself a transistor application engineer, has done a capable job of presenting transistor information for design and development engineers in a most useful form . . . Presentation is clear and logical, and the complete index aids in locating desired information with a minimum of delay."

Blackwood, Oswald, & **Kelly,** William.
General physics. Ed.2, rewritten. 704p. 1955. Wiley, New York, $6.75.

Power engineering, Sept. 1956, p.144. ⅝ col.

"Written to present the fundamentals of physics clearly and logically. The second edition treats physics as a vital science. It develops topics through the use of the reader's common knowledge and experience . . . Mathematics serve as an aid to understanding rather than an incumbrance. Using simple, direct language, the authors present familiar examples . . . to illustrate the fundamental principles . . . Incorporates a number of changes in design to increase its teaching value . . . Aside from its value in a classroom, this is an excellent modern book on physics of interest to engineers and technicians in industry."

Boguslavsky, Borris W.
Design of reinforced concrete. 428p. 1956. Macmillan, New York, $7.50.

Engineering news-record, Aug. 9, 1956, p.82. ¼ col.

"Intended to be useful both to the beginner and the experienced engineer. Justification for its appeal to students appears to be primarily limitation of subject matter to fundamentals of concrete design and simple presentation. Engineers may value the book because of formulas and methods given that are either new or not very well publicized."

Boon, S. D.
Germanium diodes. 87p. 1956. Elsevier, New York, $1.95 unbound.

Post Office Electrical Engineers' journal, July 1956, p.123. ⅔ col.

"This little book will appeal chiefly to the radio and television receiver enthusiast, who will find in its first 32 pages a concise introduction to the principles of conduction in semi-conductors and of rectification at a p-n junction . . . The next 20 pages are reproductions of data sheets and curves for five main types of diode made by the author's company. There follows a compendium . . . of 27 circuits . . . In spite of its title, the book contains no mention of the manufacture, properties or applications of large-arc junction diodes." *F. F. R.*

Tele-tech & electronic industries, Aug. 1956, p.60. ⅔ col.

"Intended to give the reader enough insight to be able to analyze such germanium diode problems as he is likely to meet, and to enable him to use these semiconductors in practical circuits . . . In all, 27 specific circuits, for

use as clippers, video demodulators, pulse shapers, time switches, ring modulators, and the like, are shown, as well as characteristic curves and technical data for some of the latest European diode designs."

Briggs, G. A.

High fidelity; the why and how for amateurs. 188p. 1956. Wharfedale Wireless Works, Ltd., 12s. 6d.

Electronic engineering, Sept. 1956, p.410. 1⅓ col.

"Whether you buy this book or not depends on whether you have Mr. Briggs' other books, for although there is additional material here there is a remarkable similarity between some of the subject matter and his prior publications . . . For the man in the street who wishes rapidly to skim the surface of the technique of high fidelity reproduction methods, the book is excellent value for the money as present book prices go . . . The subject matter is quite up to date and the book abounds in useful controversial hints and tips. A chapter is devoted to answering questions, and the writing is enlivened throughout by the author's characteristic touches of humour and some apt cartoons." *Alan Douglas.*

British Cast Iron Research Association.

Foundry ventilation and dust control. 257p. The Association, Birmingham, England, 60s.

Metal industry, Aug. 17, 1956, p.131. 1 col.

"Covering the entire field of dust control and ventilation in the foundry, this book reports the proceedings at the B.C.I.R.A. Conference, held last year at Harrogate . . . Provides a full study of the formation and dispersal of dust, and methods for its elimination or control in foundry operations. Some new experimental data have been incorporated since the holding of the conference. The results are included of a fundamental enquiry based on systematic tests carried out by the association over the last five years."

Bukstein, Edward J.

Industrial electronics in questions and answers. 197p. 1956. Ungar, New York, $3.95.

Popular electronics, Sept. 1956, p.22. ⅔ col.

"A well-known and widely read author . . . has assembled here hundreds of questions and answers that cover the basic fundamentals of industrial electronics . . . Questions and answers that comprise the text are exhaustive, and cover the field as thoroughly as conventional textbook treatment might . . . An excellent reference work, as well as an introduction to the subject, for the technician or experimenter who has mastered the fundamentals of basic electronics."

Radio & television news, Sept. 1956, p.173. ⅓ col.

"An expanded and up-to-date version of the author's earlier book, 'The Magic of Electronics' . . . Text material is divided into nine categories covering: resistance welding, photoelectricity, x-rays, thyratrons, counters and scalers, time delay circuits, special circuits, miscellaneous applications, and test instruments. Both technicians and laymen will find this book helpful and interesting."

Butler, M. D.

Conserving soil. 321p. 1956. Van Nostrand, Princeton, N. J., $3.96.

Soil science, Aug. 1956, p.173. 10 l.

"The author . . . is concerned with young farmers . . . In 23 chapters he discusses soil resource factors, jobs that improve land, conservation tools, and watersheds . . . References follow each chapter and an appendix supplies some useful symbols, definitions, and values. The illustrations are excellent . . . A very worth-while book."

Caywood, Russell E.

Electric utility rate economics. 236p. 1956. McGraw, New York, $10.

Electrical world, Sept. 3, 1956, p.159. ⅔ col.

"A concise, practical, up-to-date guide to the art of electric rate making . . . Material has been presented in such a way as to point out the many factors involved in rate making and to indicate their relationships, thus giving the reader orientation in and a broad view of the subject . . . Will serve as a reference for experienced rate men and provide the beginner with a training tool."

Insulation, Sept. 1956, p.18. 8 l.

"Thorough and practical guide to economic and technical factors involved in electric utility rate making. Detailed methods and approaches, plus the extensive use of charts, diagrams, tables, and check lists, make the book a day-to-day source of rate making information."

Chamberlin, G. J., ed.

Colorimetry and public health. 124p. 1956. Tintometer, Ltd., Salisbury, England, 18s. 6d.

Industrial chemist, Aug. 1956, p.343. 9 l.

"This work has been compiled to assist officials responsible for public health as regards tests for food, drinking, river, and swimming pool water, sewage, and trade wastes. While reference to specialist books will be necessary for more detailed information, it should provide a broad overall picture of the subject."

Laboratory practice, Sept. 1956, p.347. ¾ col.

"Mr. Chamberlin has put together a large number of colorimetric methods which are essential or very useful for testing water, foods and various metals and other chemicals. Each description has a brief introduction dealing with the purpose of the test and then proceeds to give the reagents and the method, ending with a selected number of referenes . . . Will undoubtedly be found most useful by all who have any interest in colour measurement and particularly in analytical control in the fields mentioned . . . We suggest . . . that in the next edition Mr. Chamberlin should consider at least the inclusion of . . . more accessible references, even if the original and less accessible references are still retained." *J. G. D.*

Charles, J. A., and others.

Oxygen in iron and steel making. 309p. 1956. Butterworth & Co., (Publishers), Ltd., 88 Kingsway, London, W.C.2, 42s.

British steelmaker, Aug. 1956, p.243. ¾ col.

"This book arrives at a time when interest in the use of oxygen is probably at its highest . . . The scope of subject treatment divides the material into three sections, molten metal, blast-enrichment in solid fuel combustion, and flame enrichment. There are altogether thirteen chapters dealing with the manufacture of iron and steel at all stages and by all known processes; the use of oxygen in making varying types of steel, including stainless, is covered as thoroughly as published information permits . . . Forms a most timely summary and one that should have immediate success."

Iron and steel engineer, Aug. 1956, p.236. ⅓ col.

"Deals in full detail with many applications of oxygen in iron- and steelmaking, critically reviews published information, and contains results obtained by many unreported trials, to get a clear and rapid assessment of oxygen applications . . . Ample illustrations, such as photographs, charts, tables, equations, and diagrammatic drawings, are used to supplement and explain the text."

Chase, L. R.

Automatic garage door control. 40p. 1955. Richards-Lawrence Bk. Co., 13339 Debby St., Van Nuys, Calif., $1.50 unbound.

Electronic industries & tele-tech, Sept. 1956, p.44. 6 l.

"A Do-It-Yourself book intended for the person of average skill with tools and average knowledge of electrical and mechanical devices, who wishes to construct his own garage door control system."

Chilean Iodine Educational Bureau.

Geochemistry of iodine. 150p. 1956. The Author, London.

Chemical products and chemical news, Sept. 1956, p.380. ⅝ col.

"It is greatly to the publishers' credit that a most unbiased and thorough attempt has been made to collect and classify all measured data about iodine's occurrence in rocks, soils, minerals, and ores, etc. . . The bulk of the book is occupied by classified tables for iodine contents of natural materials etc. . . The book would be no more than a reference volume but for a preceding section which reviews this world-gathered and exceedingly heterogeneous medley of data." *D. P. H.*

Soil science, Aug. 1956, p.174. 9 l.

"Evidence on the iodine content of rocks, minerals, and soils is reviewed . . . An annotated bibliography covers the period from 1825 to 1954 and 400 references are given. The iodine content of water and of the atmosphere will be discussed in a later volume . . . Twenty tables of data on individual analyses of rocks, soils, minerals, ores, and salts are presented."

Cotterell, C. L. M., and others.

Weldability of high-tensile structural steel. 102p. British Welding Research Assoc., 29 Park Crescent, London, $2.85 unbound.

American machinist, Sept. 10, 1956, p.290, 294. ⅝ col.

"Undertaken on behalf of the Ministry of Supply, this investigation arose from the need to meet urgent government requirements for welding high-strength steels having a higher strength-ratio than that previously considered practicable . . . Includes examination of existing weldability tests, the concept of critical cooling rate, and the development of controlled thermal severity test, and the correlation between weldability and end-of-transformation temperature as determined by continuous cooling dilation tests."

Cowan, Henry J.

Theory of prestressed concrete design; statically determinate structures. 264p. 1956. St. Martins, New York, $8.25.

Nature, Sept. 1, 1956, p.443. ⅔ col.

"The title . . . is rather misleading, since it concerns itself almost entirely with beams, with just 12½ pages devoted to pipes and tanks. It can scarcely be said to deal comprehensively with statically determinate structures in general. So far as statically determinate beams are concerned, the book has been written with great care and thoroughness, with numerous worked examples to illustrate points in the text when dealing with design, after a general approach through early chapters on fundamental principles, manufacture, and the properties of steel and concrete . . . If one accepts that design of simply supported prestressed beams should be carried out using working loads and working stresses, the book is a useful and comprehensive text-book; if one believes that design should be based on failure at a definite excess loading, and checked for condition at working loads, it is of far less use." *J. W. H. King.*

Cox, Arthur, ed.

Photographic optics. Ed.11, revised. 375p. 1956. Focal Press, London, $5.75.

Journal of the Society of Motion Picture and Television Engineers, Aug. 1956, p.451. 11 l.

"Although primarily for still photography, this book has material of value for cine and TV technicians. Of particular interest is the consolidated treatment of lenses of Asiatic, European and American origin. Recent large-aperture types of up to *f*/1.2 are described in this edition. Specific lenses are identified by their trade names for positive recognition, and lenses in the same design category are conveniently grouped. Optical schematics are given." *Bernard D. Plakum.*

Cremer, Herbert W., & **Davies,** Trefor, ed.

Chemical engineering practice. 12v. 1956. Academic Press, New York, $13.30 each.

v.1. General. 494p.

v.2. Operations and process involving solid systems. pt.1. 632p.

British chemical engineering, Sept. 1956, p.286. 2¼ col.

"There was . . . an obvious need for an authoritative text, something more than Perry's Handbook, to combine the latest developments of theory with details of the achievements of practice, linking studies in materials of construction, fabrication and corrosion with unit operations and design methods. The production of such a text by any one individual or any single group of individuals was obviously impossible and the editors therefore wisely . . .

[called] upon a large number of chemical engineers to write the individual chapters assigned to them."

Chemical age, Aug. 4, 1956, p.220. 1⅝ col.

"Volume I deals with a number of introductory subjects such as the origin of chemical engineering, and the training and functions of the chemical engineer. Other topics include: investigation and development of industrial processes (the use of materials and energy balances), pilot plant design and operation, and preparation of flow diagrams. Volume II deals with the physics, chemistry and metallurgy of solid systems, including the following subjects: metals and alloys, corrosion, plastics and glasses, powder metallurgy, porous masses and their industrial uses, and transpiration cooling . . . Should be a necessary acquisition for libraries, teaching establishments and industrial concerns. The editors and publishers are to be warmly congratulated on their foresight and diligence." *J. W. Mullin.*

Chemical trade journal and chemical engineer, Aug. 17, 1956, p.383, 378. 2 col.

"Since the original announcement was made, the appearance of this comprehensive new British work on chemical engineering has been eagerly awaited and now that the first two volumes have been issued . . . we feel quite confident that none who have already examined or made use of them will be labouring under any sense of disappointment. Physically, in typography, general production and binding, the volumes are excellent and will add grace to any bookshelf . . . Mr. Cremer himself is responsible for the general preface, but all the other chapters in the two first volumes have been contributed by equally well known authorities in their fields . . . Whilst much in these two volumes is readily intelligible to and assimilable by readers with less preliminary training, the work as a whole assumes that readers will have obtained a First Degree standard in the pure or applied physical sciences and possess an adequate mathematical armoury . . . On the whole, and from these first two volumes alone, one has no hesitation in saying that in even such a rapidly developing field as chemical engineering, 'Cremer and Davies' will be accepted as a standard work of reference for many years to come."

Cumming, C. D.

Diamond drilling handbook. Ed.2. 685p. 1956. J. K. Smit & Sons of Canada, Ltd., 129 Adelaide St. W., Toronto, $8.50.

Canadian mining and metallurgical bulletin, Aug. 1956, p.45. ⅜ col.

"Designed for the engineer, geologist, student, or mine manager, the Handbook also contains material in non-technical forms for the layman investor who may wish to understand the relationship of diamond drilling to exploration and mine development, or to evaluate drilling terms used in reports and in the mining press . . . The Handbook has a bibliography of diamond drill publications, an expanded glossary of drilling terms, and an extensive cross-reference index."

Canadian mining journal, Aug. 1956, p.87. ⅜ col.

"Great advances in diamond drilling equipment and techniques have necessitated almost complete re-writing . . . New subject matter includes: drilling in permafrost, tar sands, salt formations, uranium, submarine drilling from barges, deep and large diameter holes, vibration, soil sampling, and wire line coring . . . Other subject matter includes developments in arc cutting and wedging, and new geophysical methods."

Custer, James R., ed.

Applied automation. 236p. 1956. Chilton Co., Philadelphia, $7.50.

Aeronautical engineering review, Aug. 1956, p.162. 10 l.

"Contains a review of important automation applications in automotive and aircraft production . . . Consists of 75 selected articles which have been published during the past 4 years on that subject in Automotive Industries. Over 101 specific applications of automation are covered in a wide range of operations that include machining, stamping, welding, forging, heat treating, plating, painting, inspection, testing, and assembling."

Popular electronics, Oct. 1956, p.37. ⅛ col.

"A collection of articles originally published in the magazine *Automotive Industries*. Dealing with various phases of automation as applied to the manufacture of cars, the book addresses itself chiefly to the industrial engineer and describes in detail equipment used to make and automatically assemble parts. Electronic controls are also discussed. *Recommended*: as a treatise on specialized aspects of automation."

Den Hartog, J. P.

Mechanical vibrations. Ed.4. 436p. 1956. McGraw, New York, $9.

Aeronautical engineering review, Sept. 1956, p.156. ⅛ col.

"Originally the outgrowth of a course of lectures given to students in the Design School of the Westinghouse Company in Pittsburgh, Pa., the first edition . . . was published in 1934 . . . Intended for the student engineer and the practicing engineeer. While dealing with vibration phenomena in a thoroughly technical manner, the text emphasizes the many applications of principles and calculations to the vibration problems encountered by the practicing engineer."

American machinist, Sept. 10, 1956. p.294, 296. ⅛ col.

"The number of problems has been substantially increased. New material has been added on Kármán vortices and on non-linear vibrations, with examples of case studies that have appeared in practice since 1947. Changes have been made in each chapter to bring the subject up to date . . . Aims to be as simple as is compatible with a reasonably complete treatment of the subject. Mathematics has not been avoided, but in all cases the mathematical approach used is the simplest one available . . . Complete explanations and proofs are given without use of mathematics higher than differentiations and integrations."

De Ong, Elmer R.

Chemistry and uses of pesticides. Ed.2. 341p. 1956. Reinhold, New York, $8.75.

Industrial hygiene digest, Aug. 1956, p.5. ¼ p.

"Covers the entire field of pesticides . . . Includes valuable information on insecticides, fungicides, herbicides, rodenticides, repellents,

and seed disinfectants, with data on chemical and physical properties, toxicology, and compatibility . . . Copious references are given after each chapter. An appendix includes a dictionary of pesticides and a list of the tolerances established up to the date of publication . . . Should be of value to agricultural chemists, pesticide manufacturers, agronomists, food processors, farmers, and students." *F. F. R.*

Dillon, V. S., and others.
Assay practice on the Witwatersrand. 603p. 1955. Cape Times, Parow, Cape Province, South Africa.

South African mining and engineering journal, Aug. 3, 1956, p.172. ¼ col.

"Combining technical ability and experience, the authors have provided a clear and comprehensive guide to present-day methods of assaying, which are in general use on the Witwatersrand. These methods are not confined to the determination of the value of ores and metallurgical products, but include all those phases of physical and analytical chemistry essential to the technical control of everyday operations on a mine . . . Much useful information is made available to all concerned with assaying, both locally and elsewhere in the mining world, and it is of special value to students."

Engineering formulas & tables. Revised edition. 350p. Lefax Pub., Philadelphia, $2.75.

American metal market, Aug. 8, 1956, p.2. ⅛ col.

"Civil, mechanical and electrical engineers will find Lefax' newly revised 'Engineering Formulas & Tables' an indispensable tool. About 350 pages list basic formulas, design data, and tables for the three branches of engineering. Condensed, indexed and accurate, 12 division sheets with printed tabs furnish immediate access to the particular information desired."

Coal age, Sept. 1956, p.158. 9 l.

"A revised reference work for mining, civil, mechanical and electrical engineers. Sections include mathematics, measures, materials, gages, screws, mechanics, electricity and magnetism, hydraulics, structural data, reinforced concrete, pipe and fittings, steam tables and mathematical tables."

English, James, & **Cassidy,** H. G.
Principles of organic chemistry. Ed.2. 469p. 1956. McGraw, New York, $6.50.

Industrial chemist, Aug. 1956, p.341. ⅝ col.

"This one-year introductory course in organic chemistry has been written for the American college student taking a degree in medicine, chemistry or chemical engineering . . . An outstanding feature, unusual in an introductory textbook of organic chemistry, is the wide use made of the principles of resonance and the electronic interpretation of reaction mechanisms . . . The exercises at the end of each chapter, and the review exercises at the end of the book are not the usual type, requiring one-word answers, but they are excellent problems on the application of principles." *Kenneth Stuart.*

Proceedings of the Royal Australian Chemical Institute, July 1956, p.181. 1 p.

"The biochemical chapter of the first edition has been replaced by a much more practical short chapter on heterocyclic compounds, but a somewhat more extensive treatment of this chapter would have added to the value of the book . . . The rearrangement and rewording of some passages in the first edition and the clearer setting out of sub-chapters are further desirable features of the new edition . . . The price is somewhat high in comparison with some British and other texts which offer greater depth and scope, not to mention accuracy, in compensation for poorer paper and type." *J. B. P.*

Fagg, S. V.
Differential equations. 128p. 1956. English Universities Press, London, 7s. 6d. net. (Applied mathematics series.)

Engineer, Aug. 17, 1956, p.237. ⅛ col.

"[The book] calls for no more than sixth form mathematical training, [and] the ability to differentiate and to integrate standard functions. The study is taken far enough to introduce the Laplace transform, and examples are worked using this method on single and simultaneous linear equations. Numerous exercises are provided, the answers being presented after the text."

Mechanical world, Aug. 1956, p.379. ⅝ col.

"The book is small, convenient to handle and presents sufficient for its purpose, a combination which makes it altogether admirable and attractive. An elementary treatment of first and second order differential equations is offered requiring prior knowledge of no more than the differentiation and integration of standard functions . . . Many practical problems are discussed . . . Exercises include questions from recent papers set by various examining bodies."

Fales, Harold A., & **Kenny,** F., ed.
Inorganic qualitative analysis; semimicro technique with estimation of concentrations. Ed.3. 252p. 1955. Appleton, New York, $3.50.

Journal of chemical education, Aug. 1956, p.417. ⅛ col.

"Presents adequately the necessary information for an elementary course in qualitative analysis . . . The first part presents the necessary fundamentals of chemistry such as ionization constants, solubility constants, complex ions, etc. The second part gives the laboratory procedures and reactions for both cations and anions . . . Provides a medium-sized, well-organized, and well-written text in semimicro qualitative analysis." *Bruce V. Weidner.*

Farley, F. J. M.
Elements of pulse circuits. 143p. 1956. Wiley, New York, $2. (Methuen's monographs on physical subjects.)

Electronics, Oct. 1956, p.456. ⅜ col.

"The book is not a heavy work on circuit design by any means but rather the aggregation of useful pulse circuits pulled together and explained in a sort of quasiqualitative fashion. The author does not make use of transform analyses or other high-powered mathematics . . . Should be useful as a quick review, introduction or ready reference for engineers whose work brings them into contact with pulse circuits." *J. M. C.*

Wireless world, Aug. 1956, p.399. 12 l.

"Monograph, addressed to physicists and research workers with an elementary knowledge of radio valves and circuits, covering all the well-known pulse forming amplifying circuits and explaining their action on a physical rather than a mathematical basis. The concluding chapter deals with applications in television, radar and nuclear research."

Fenton, Carroll Lane, & **Kitchen,** H. B.
Plants that feed us. 95p. 1956. Day, New York, $2.75.

Nature magazine, Aug.-Sept. 1956, p.337. ¼ col.

"The history of crops is an ancient one, and as fascinating as it is historic. In this popular treatment the authors cover grains and vegetables from artichokes to zucchini, treating with the history of these plants, their origin and introduction to other parts of the world, and the achievements of man in improving upon Nature through cross-breeding and naturalization."

Fieser, Louis, & **Fieser,** Mary.
Organic chemistry. Ed.3, revised. 1112p. 1956. Reinhold, New York, $10.

Petroleum refiner, Sept. 1956, p.350. 12 l.

"Completely revised, this book develops the principles and concepts of modern organic chemistry and the application of the science to technology. Since the second edition was published in 1949, a number of new developments have been made in this important field. Some of those which are taken up . . . are not covered in any other book. Advances in theory also have been striking, and those have been included in the new edition."

Textile world, Sept. 1956, p.286. ⅓ col.

"The third edition of what has become a standard work on organic chemistry has been completely revised and includes the new developments in the field that have occurred since the second edition was published in 1949. New light shed on structures and the synthesis of important fatty acids, carbohydrates, peptides, enzymes, alkaloids, tropolones, steroids, and antibiotics has changed previous concepts so that almost complete rewriting was necessary . . . Industrial research chemists will find this edition of value in catching up on new developments as well as a source of day-to-day information."

Fink, Donald G., ed.
Color television; simplified theory and service techniques. 154p. 1956. Philco Corp., P.O. Box 9817, Philadelphia, $5 unbound.

Electronics, Sept. 1956, p.430. ⅙ col.

"Written primarily for the service technician, this book will also be of interest to the engineer who wants to learn the essentials of color tv without getting into the details of colorimetry." *H. A. M.*

Radio & television news, Sept. 1956, p.173. ⅓ col.

"Prepared especially for practicing service technicians who are ready to take the plunge into color work . . . Covers all phases of color, including theory, design, transmission, reception, installation, and servicing. A brief but comprehensive review of black-and-white theory and practice has been included to enable the user to start off on the right foot . . . Graphs, circuit diagrams, and scope patterns in full color contribute a great deal to the over-all picture of the subject."

Radio-electronics, Oct. 1956, p.157. ½ col.

"The book is well organized and the explanation clear and to the point. Numerous waveform drawings scattered throughout the book illustrate the text, and scope pattern photos in the servicing section will also be found useful." *M. M.*

Technician & circuit digests, July 1956, p.13. ⅛ col.

"Over 50,000 well written words supported by 288 illustrations provide a comprehensive explanation of the color TV science. After reviewing black and white TV, colorimetry and transmission standards, the text goes on to describe the various circuits and color crt assembly. Of special value to service techs are the sections on crt and receiver adjustments, alignment, servicing and installation procedures."

Folsom, Franklin.
Exploring American caves. 280p. 1956. Crown, New York, $5.

Natural history, Sept. 1956, p.342. ⅗ col.

"In this book the potential spelunker will find practical advice on every aspect of caving, from footwear to headgear, from kneepads to underclothes, and on such basic essentials as lights and food . . . There is much in this book for the armchair explorer. The major part is devoted to the cave findings of geologists, climbers, anthropologists, historians, and biologists . . . A generous number of pictures is included, in four sixteen-page sections, but their reproduction is unaccountably poor." *Charles E. Mohr.*

Nature magazine, Aug.-Sept. 1956, p.341. ¼ col.

"A history of American caves, covering their geology, their lore and their location. It is, at the same time, a guide for cave-goers . . . Within its covers are assembled an up-to-date directory of the caves that are open to the public, information on local groups interested in caves, advice to the spelunker and a glossary of speleological terms."

Garner, R. H.
Mechanical design for electronic engineers. 223p. 1956. Newnes, London, 25s. net.

Electrical journal, Aug. 10, 1956, p.422. ⅓ col.

"The sound mechanical design of electronic equipment is essential, but information on this subject seems to have been neglected in the past, attention having been concentrated on circuitry and components. Of equal importance, however, is the accessibility of components for adjustment or replacement, ruggedness, and general reliability under adverse conditions such as vibration. Furthermore in the field of television, radar navigation, electronic computing, etc., reliability and ease of servicing are of prime importance. This is the field covered by this book."

Electrical review, Sept. 7, 1956, p.414. ⅓ col.

"Mr. Garner feels, quite correctly, that young engineers are more at home with electrical design than they are with the mechanical aspects of their profession, and he has written

this book to guide them and as an aid to mechanical standardisation . . . The title is rather misleading because the book is a sort of 'Ingenious Mechanisms for Engineers and Designers' devoted to the electronics industry." *A. H. B.*

Garrett, S. D.

Biology of root-infecting fungi. 293p. 1956. Cambridge, New York, $5.50.

Journal of the Association of Official Agricultural Chemists, Aug. 15, 1956, p.896. ⅔ p.

"A definite contribution to the study of soil-inhabiting fungi which infect the roots of plants either as parasites or saprophytes . . . An outstanding feature is the extensive bibliography at the end of the book . . . Well written and organized and should stimulate further interest in this field of investigation." *F. Allen Hodges.*

Giet, A.

Abacs or nomograms; translated from the French by H. D. Phippen and edited by J. W. Head. 235p. 1956. Philosophical Library, New York, $12.

British plastics, Aug. 1956, p.313. ⅔ col.

"[The book] is essentially practical, and not only demonstrates the many and varied applications of the abac or nomogram but shows how even those without highly specialized mathematical knowledge may construct their own charts . . . Will prove of greatest practical interest to engineers and physicists, and many others who require time-saving methods when performing repetitive and complicated calculations."

Electrical journal, Aug. 10, 1956, p.423. ¼ col.

"A translation from the French presenting in an elementary way the subject of nomograms. Most engineers have used nomograms when accuracy to, say, within a few per cent is sufficient and this book is intended for practical engineers rather than mathematicians . . . Excellent in its unfolding of the subject and is definitely not so mathematical as to frighten the engineer who has been away from his books for a long time. The many examples included will suggest further uses of the nomogram idea to electrical engineers."

Electrical review, Sept. 7, 1956, p.414. ⅔ col.

"M. Giet presents an essentially practical book explaining abacs or charts of several varieties and giving examples from engineering practice—mainly machine shop and mechanical engineering problems . . . Miss H. D. Phippen and Mr. J. W. Head have made an excellent translation and conveyed M. Giet's ideas in a very clear manner." *K. W. W.*

Greenhut, Melvin L.

Plant location in theory and practice. 338p. 1956. Univ. of North Carolina Press, Chapel Hill, N. C., $7.50.

Operations research, Aug. 1956, p.495. 1 p.

"Professor Greenhut has provided a scholarly review and analysis of location theory. He has offered a general theory which is broader in scope than earlier work in this field and which allows consideration of the numerous factors which influence the location decisions of firms. The book is very well annotated, the bibliography and footnotes provide an excellent guide to the literature of the subject . . . Of interest primarily to theoreticians rather than to persons directly engaged in area development and plant location work." *Neil T. Houston.*

Hannah, John, & **Stephens,** R. C.

Examples in mechanical vibrations. 160p. 1956. E. Arnold, London, 18s.

Engineer, July 27, 1956, p.123. ⅔ col.

"Intended entirely for those cramming for examinations . . . Consists mainly of worked examination questions and numerous unworked questions for which the answers are given . . . Examination questions are taken from the Universities of London and Glasgow, and from the Institution of Mechanical Engineers. It is not stated over which period of years these were set. This is to be regretted as the curricula of some of the courses may have been changed."

Engineers' digest, Aug. 1956, p.358. ¼ col.

"Written to supplement textbooks on the theory of machines in this branch of the subject and covers the syllabuses of mechanical vibrations for most examining bodies . . . Each chapter conveniently consists of a review of the subject matter, together with the derivation of the formulae used, and a large number of worked and unworked examples . . . It is assumed that the student has a reasonable knowledge of the theory of machines, the strength of materials, and differential equations, but, where necessary, references are given to standard textbooks on these subjects."

Structural engineer, Sept. 1956, p.323. ⅔ col.

"Intended to supplement the Theory of Machines text book for students taking degrees or the examinations of the professional institutions . . . The subject matter covered and the wide range of worked and unworked problems is adequate for the requirements of the students for whom it is intended. The theory is naturally given very briefly and for most students will be chiefly useful as a handy summary . . . Should provide useful additional practice in examination problems on vibration and can be recommended to students and lecturers." *J. M.*

Haupt, A. W.

Introduction to botany. Ed.3. 447p. 1956. McGraw, New York, $5.50.

Bulletin of the Torrey Botanical Club, July-Aug. 1956, p.312. ⅙ p.

"One of the outstanding college textbooks in botany to be presented to the field in some time . . . Designed primarily for a one semester course in which a solid foundation in the field is to be developed in the student . . . Well-balanced, clear, concise and fundamental. New material and illustrations have been added and the result is a crisp modern treatment of the science, but not at the expense of the fundamental material which has often happened in the past." *W. T. Ward.*

Head, J. W. See **Giet,** A.

Henry, F. D. C.

Design and construction of engineering foundations. 547p. 1956. E. & F. N. Spon, London, 63s.

Colliery engineering, Aug. 1956, p.351. ⅔ col.

"In no case has the author laid down precise mathematical solutions. Rather he has attempted to fuse design work, structural analysis and soil mechanics, to indicate how successful foundations have been constructed, and to examine all the subjects in the light of relevant research. The result is very impressive and this work should make its mark as a standard treatise on the subject."

Engineer, Aug. 24, 1956, p.269. ⅓ col.

"The aim of the treatment expounded in this book is to link the theory of soil mechanics with actual foundation design and methods used in structural analysis. Thus, emphasis is placed on outlining the existing solutions of foundation problems of various kinds, and the book, as a whole, contains a comprehensive treatise of both the theoretical background and the constructional procedures commonly encountered in foundation engineering."

Hoff, N. J.

Analysis of structures. 493p. 1956. Wiley, New York, $9.50.

Aero digest, Sept. 1956, p.15. ⅓ col.

"The principle of virtual displacements is the starting point. The development of the minimal principles of structural theory is then presented. This is followed by a treatment of buckling phenomena. The book concludes with a section devoted to complementary energy and least work methods."

South African mining and engineering journal, Aug. 3, 1956, p.172. ¼ col.

"Although it is assumed that the reader has had an undergraduate training in engineering, the presentation is simple enough to allow a practising engineer, who is a little rusty on mathematics and mechanics, to read the book by himself . . . Whenever mathematical method beyond the elementary principles of the calculus are used, they are explained in sufficient detail."

Holland, L.

Vacuum deposition of thin films. 541p. 1956. Chapman & H., London, 70s. net.

Electrical journal, Aug. 10, 1956, p.423. ½ col.

"The literature of thin films, of formidable proportions though it be, is mainly composed of theoretical treatises and reported papers on the subject. This is believed to be the first comprehensive technological work dealing with both deposition procedures and the physical properties of thin films, which can serve as a reference book and guide to the interested reader. As it was obviously impossible to deal in detail with all the numerous applications of thin films, the main subject matter has been planned to cover plant design, thin film production, and the physical properties of such films."

Electrical review, Sept. 7, 1956, p.414. ½ col.

"This authoritative work, by the head of the vacuum coating research laboratory of Edwards High Vacuum, Ltd., covers a field which up to now has been documented only by scattered papers and works covering a part only of the field . . . Excellently produced. The techniques are well described, whilst some theoretical background is given, and there are frequent references to the bibliography of 557 references." *P. L. D.*

Hylander, Clarence J.

The world of plant life. Ed.2. 653p. 1956. Macmillan, New York, $8.95.

Soil science, Aug. 1956, p.177. 11 l.

"The subject is developed systematically, beginning with the most primitive forms of life and simplest green plants and following through to the higher spore plants, naked-seed plants, and fruit-seed plants, including dicots and monocots. No references are given . . . Written in a popular style and for the man who is interested in plants as a hobby rather than for the scientist. But everyone concerned with plants, whether as a layman or a specialist, will find much of interest and value in it . . . A very useful reference book."

Jaeger, Charles.

Engineering and fluid mechanics; translated from the German by P. O. Wolf. 529p. 1956. Blackie, London, 60s.

Electrical journal, Aug. 24, 1956, p.562. ½ col.

"In four parts, namely: The physical basis of hydraulics; steady flow; unsteady flow; and ground-water flow. In addition, four appendices cover: Empirical coefficients; flow over a moveable bed related to the theory of flow in open channels; density currents, underflow in muddy water; and a list of symbols adopted from classical notation. Numerous references are intended to give the reader some insight into the historical development of hydraulics and point the way to other publications on subjects which could not be fully covered in this context. Many original contributions to the science of fluid mechanics have been made by the author himself and this book equally represents a major and invaluable contribution to the literature on the subject."

Electrical review, Aug. 10, 1956, p.240. ⅓ col.

"The subject of hydraulics is examined with particular reference to hydro-electric developments but the theory is of course relevant to any works where the movement and control of water is involved . . . Although of necessity largely theoretical in treatment, the text covers clearly a great many practical points of application in hydro-electric design. The index is good, the bibliography is excellent and is given page by page as required . . . Fills a long-standing gap in technical literature and should be a great help and guide to many engineers in a frequently controversial field." *H. R. M.*

Engineers' digest, Aug. 1956, p.358. ⅓ col.

"The author covers the methods of analysis and calculation required for the design of water-power schemes, the selection of the material having been based on many years of experience in this type of work. There are numerous references in this useful and well-translated book intended to give readers some insight into the historical development of hydraulics. Moreover, they point the way to other publications on subjects which naturally cannot be covered fully in a necessarily limited textbook of this type."

Jauch, J. M., & **Rohrlich,** F.

Theory of protons and electrons. 488p. 1955. Addison-Wesley Pub. Co., Cambridge, Mass., $10.

Physics today, Aug. 1956, p.34. 1⅓ col.

"Until the appearance of this book no account was available to English readers of the remarkable achievements of quantum field theory over the last ten years, other than could be obtained by the rather laborious process of reading the original papers . . . Clearly no book written now can expect to be the last word on the subject. No doubt many changes will occur before a final theory is achieved, but in the meanwhile this book will serve as a most useful compendium of current knowledge." *J. C. Polkinghorne.*

Kaye, G. W. C., & Laby, T. H.
Tables of physical and chemical constants and some mathematical functions. Ed.11, revised. 233p. 1956. Longmans, New York, $5.

Chemical age, Aug. 18, 1956, p.309. 1⅛ col.

"This revision . . . has been carried out under the supervision of an editorial board consisting of Dr. H. Barrell, Dr. E. A. Coulson, Professor N. Feather, F.R.S., and Dr. J. M. C. Scott, who are to be congratulated on producing a volume only 50 pages longer than its immediate predecessor, yet containing a high proportion of the more useful of the vast amount of data which has accumulated during the past decade . . . The Kaye and Laby tables represent an unusual achievement, the volume being of reasonable size yet containing a considerable store of useful data. The price is also reasonable and no scientific worker should be without a personal copy." *A. Dalgarno.*

Kenny, F. See Fales, Harold A., & Kenny, F., ed.

Kirby, Richard S., and others.
Engineering in history. 530p. 1956. McGraw, New York, $8.50.

Engineering, Aug. 17, 1956, p.208. 1⅛ col.

"An enthralling, if rather unevenly told, history of the contribution of different races, nations and civilisations to the progress of man's conquest of his environment, in which the story of many of the advances in the art is told in fascinating detail, although the social background and consequences receive rather naive and elementary treatment."

Insulation, Sept. 1956, p.18. 11 l.

"Covers development of engineering from about 6000 B.C. to the present . . . Shows how various factors in the physical and cultural environment conditioned engineering advance and how engineering has affected other human activities. Emphasis is placed on the history of civil, electrical, and some aspects of metallurgical and mechanical engineering."

Mechanical engineering, Sept. 1956, p.871. ⅛ col.

"By a lucky fusion four enthusiasts each grounded in a phase of this great subject have combined to write a first-rate book. For 'Engineering in History' is true to its title; the authors have not tried to write a history of engineering. They have produced an easily readable nontechnical account in which each age has been made to extrude the engineering on which it has depended for its growth . . . To many this book will be a new experience." *Walter D. Binger.*

Science, Aug. 24, 1956, p.370. 1⅛ col. including another review.

"The stimulating history of engineering by Richard S. Kirby and his associates emphasizes at all times the close contacts between science and engineering . . . Keen perception of this association between science and engineering has made it possible for the authors to compress into a single volume an impressive history of the fields of civil engineering, construction, transportation, and power engineering . . . Despite the wide range of material, the narrative has a structure that is vividly felt and moves with such vigor that it is hard to lay the book down . . . A fine achievement in historical writing." *Abbott Payson Usher.*

Kiver, Milton S.
Transistors in radio and television. 324p. 1956. McGraw, New York, $6.50.

Electronic industries & tele-tech, Sept. 1956, p.42, 44. ⅓ col.

"The discussion starts with modern electron theory and then progresses to the operation of point-contact, junction, and other transistors. This is followed by the analysis of a variety of transistor circuits, particularly those which are used in radio and television receivers. No mathematics of any difficulty are employed in the text. A very useful chapter on servicing transistor circuits and a practical chapter on experiments with transistors complete the book . . . Extensive illustrations, including perspective diagrams, give a clear insight into the workings of transistors."

Technician & circuit digests, Sept. 1956, p.69. ⅓ col.

"The growing use of transistors in radios and audio devices, plus the prospective inclusion in TV, make it imperative for electronic technicians to have a clear understanding of how these semiconductors operate, associated components and circuits, and techniques for servicing. This well written volume, adequately illustrated, provides practically all the essential technical information required . . . One of the best books on the subject."

Kogan, Zuce.
Essentials in problem solving. Ed.2. 119p. 1956. Arco, New York, $3.

Aeronautical engineering review, Aug. 1956, p.166. 6 l.

"The author proposes a method for problem solving which involves the formulation, adoption, and utilization of 'approaches.' These 'approaches' are a set of general solutions to be applied to specific problems in science, technology, and human relations."

Kramers, H. A.
Collected scientific papers. 969p. 1956. North-Holland Pub. Co., Amsterdam, 90s.

Nature, Aug. 18, 1956, p.337. ⅔ col.

"The world of physics has good reason to be grateful to the editor of these collected papers, N. G. van Kampen, and to the various Dutch funds and institutions which generously supported the publication of this monumental volume. A number of Kramers's papers were published in not too accessible journals, but will now be readily available . . .The papers are broadly arranged according to subject, and within each group chronologically . . . It is impossible to do justice to this book in a

short review. It shows better than any obituary could do the many-sidedness of Kramers's work as a physicist. Unfortunately, it was decided not to include Kramers's philosophical and popular papers." *D. ter Haar.*

Lawrence, W. J. C.

Soil sterilization. 169p. 1956. Macmillan, New York, $3.50.

Soil science, Aug. 1956, p.177. 10 l.

"An outgrowth of the author's experiences as a member of the staff of the John Innes Horticultural Institution. The 20 chapters discuss reasons for sterilizing soils, steam sterilization, chemical sterilization, and the treatment of soils after sterilization. The appendix contains some useful standards and values. A bibliography of 28 references is appended . . . Highly useful for reference purposes."

Meetham, A. R.

Atmospheric pollution; its origin and prevention. Ed.2, revised. 302p. 1956. Pergamon, London, 63s. net.

American Industrial Hygiene Association quarterly, Sept. 1956, p.354. ⅔ col.

"The second edition of this English text contains a broad treatment of the air pollution problem . . . Includes extensive discussions of the various natural and artificial industrial fuels and the industrial and domestic boilers and furnaces used for their combustion. Major emphasis is placed on smoke resulting from fuel combustion as the source and primary component of air pollution . . . The effects of pollution on human, plant and animal health and growth as well as resultant property damage are covered . . . Selective bibliographies are appended to each chapter." *Isaiah Gellman.*

Iron and steel engineer, Sept. 1956, p.320. ⅓ col.

"Contains revised and recent information brought to light by the many recent technical conferences in the United States and the symposia held in England. Alterations have been made in various places throughout the book and a new chapter on recent developments containing three parts dealing with pollution in fogs, trends in atmosphere, and pollution from nuclear reaction, is presented as a 'word in season' and not intended as the last word on these developments. In addition . . . the book covers fuels; power and electricity; industrial furnaces; domestic fires; atmospheric pollution — measurement, distribution, changes to, effects of, and prevention; as well as a discussion of British law and its administration."

Oil and gas journal, Sept. 24, 1956, p.111. ⅙ col.

"Considerably revised since original publication in 1952 . . . Up-to-date and remains an essential part of the equipment of everyone who is studying atmospheric pollution or helping to combat it."

Royal Society for the Promotion of Health journal, Aug. 1956, p.495. 6 l.

"In the comparatively short period since the publication of the first edition . . . in 1952, the many technical conferences and symposia held on the subject of atmospheric pollution have revealed a considerable amount of new information, which has been taken into account in this revised edition. The new chapter on recent developments deals with pollution in fogs, progress made against smoke and sulphur dioxide, fumes from petrol and fuel oil, and pollution of the atmospheres from nuclear reactions."

Mortlock, J. R.

A.C. switchgear. v.1: A survey of requirements. 387p. 1956. Chapman & H., London, 50s. net.

Electrical journal, Aug. 10, 1956, p.423. ⅓ col.

"Presents in general a mathematical approach to the problems associated with the determination of the ratings of switchgear, although certain sections are descriptive."

Electrical review, Aug. 17, 1956, p.311. ⅔ col.

"The first six chapters . . . are concerned with matters which rather belie the title but they represent a clearly written exposition for the average engineer of how to calculate the fault conditions with which he will have to deal, and what is aimed at in the protection of his circuits . . . Chapters 7 and 8 deal with arcs and with restriking voltages, the latter being dealt with at great length; and the last chapter covers the co-ordination of insulation as applied to all classes of power equipment. Readers wil find clarification of their thoughts on these subjects and some up-to-date comments on possible future developments." *H. R. M.*

Mottram, V. H., & Graham, George.

Hutchisons' Food and the principles of dietetics. Ed.11. 630p. 1956. Williams & Wilkins, Baltimore, $8.25.

Food, Aug. 1956, p.320. 1⅔ col.

"Well printed, indexed, and arranged and there are very few printing mistakes . . . The reviewer found the style of the book very refreshing and up to date and feels it should have a wide appeal. As well as dietitians and nutritionists, the food manufacturer or food chemist should also find this book interesting." *L. C. Dutton.*

Myklestad, N. O.

Fundamentals of vibration analysis. 260p. 1956. McGraw, New York, $6.50.

Aeronautical engineering review, Aug. 1956, p.166. ½ col.

"This text emphasizes fundamentals and is primarily designed for a first course in vibration analysis at either the undergraduate or graduate level. Since only the classical method of analysis is used, material is developed to present a clear picture of the phenomena involved while numerical and routine methods of analysis are reduced to a minimum. Features include a new proof of the orthogonality condition, introduction of the concept of damped modes of free vibration, new treatments of vibration instruments and balancing, and numerous problems which are answered in the back of the book."

Journal of the Franklin Institute, Sept. 1956, p.233. ⅔ col.

"Myklestad's work on vibration analysis is well known and this book is an additional contribution to his previous publications on the subject . . . An interesting contribution on vibration analysis, covering a range usually sufficient for most engineering problems . . . Covers certain well known problems in the single degree and in systems of more than one

degree of freedom . . . An excellent intermediate discussion of vibration analysis and should be well received by all engineers." *Rupen Eksergian.*

Nininger, Robert D.

Minerals for atomic energy. Ed.2. 399p. 1956. Van Nostrand, New York, $8.

Mines magazine, Aug. 1956, p.59. ½ col.

"This complete prospector's guide should prove to be even more popular than the internationally accepted first edition . . . In detail the reader is told what to look for, where to look and how to look—all in a language that the weekend prospector can easily understand, and is still packed full of enough sought after information that the professional will thumb through it many times."

Oliver, John W.

History of American technology. 676p. 1956. Ronald, New York, $6.50.

Journal of the Franklin Institute, Aug. 1956, p.159. 1¼ col.

"A mine of information covering this wide area that includes agriculture, communication, transportation, building, etc., as well as manufacturing technology. Having such an extensive field to cover it is not to be expected that individual achievements can be described fully, but their significance is not overlooked, and they are presented in the right proportions. All the familiar names appear and a great many that are unfamiliar are given the prominence they deserve . . . The only considerable omission this reviewer could find was that of Thomas Godfrey, who deserved mention as the inventor of the sextant, an honor he shared with Hadley . . . A work that has all the traces of painstaking, sustained research balanced by fine judgment . . . Repeated tests have shown that the index to this volume responds creditably to the reader's demands. Altogether, we feel, this will be a welcome addition to those books that bring learning and energy to the study of the place of technics in human culture." *T. C.*

Science, Aug. 24, 1956, p.370. 1⅓ col. including another review.

"The study of American technology . . . is unusual because of the emphasis on the intimate relationships between science, technology, and culture. Although new discoveries in science and major inventions are fully appreciated, much attention is given to the diffusion of scientific and technical knowledge by scientific societies and to modifications of engineering practice . . . The development of the economy of the United States is portrayed with great skill and without undue emphasis on any single factor . . . A notable contribution to the economic and cultural history of the United States and will be invaluable to the general reader and to college students." *Abbott Payson Usher.*

Patterson, G. N.

Molecular flow in gases. 217p. 1956. Wiley, New York, $7.50.

Chemistry in Canada, Aug. 1956, p.34. ½ col.

"The author outlines the fundamentals of the kinetic theory of gases; then, using a simple spherical molecular model and the Maxwell distribution function, the properties of frictionless isentropic flow are obtained. By the introduction of simple molecular interactions and a modified Maxwellian distribution some of the features of viscuous non-isentropic flow are explained. The final section consists of a discussion of flow in rarefied gases and includes such topics as molecular effusion, thermal accommodation and slip flow . . . Should be very useful to those in the fields of gas dynamics and aerodynamics who feel that their knowledge of kinetic theory is lacking, and to physical chemists and phycisists [sic] working with rarefied gases." *G. W. Benson.*

Industrial laboratories, Sept. 1956, p.125. ½ col.

"Presents a clear, fundamental introduction to a way of viewing fluid mechanics and gas dynamics different from conventional engineering presentations . . . Engineers having a basic knowledge of the continuum theory of fluid mechanics will find this book a stimulating introduction to the molecular approach to gas dynamics . . . The level of mathematical background required by the reader for understanding the book is no higher than that required for the continuum theory of fluid mechanics, and appeal is made to intuition and physical understanding of the mathematical approaches. The author is to be congratulated for a book which should be of intellectual benefit and practical assistance to engineers and physicists interested in fluid mechanics and gas dynamics." *James Ash.*

Pearson, J. M.

Contributions of J. M. Pearson to mitigation of underground corrosion. 56p. 1956. National Association of Corrosion Engineers, 1061 M & M Bldg., Houston, Tex., $5 unbound.

Corrosion, Sept. 1956, p.98. ⅛ col.

"Six papers by the late Dr. J. M. Pearson, an acknowledged expert on underground corrosion mitigation and one by a co-worker prepared under his leadership, are reprinted. The six papers, reprinted by permission from The Petroleum Engineer and Transactions of The Electrochemical Society where they were published originally in 1941-1944, cover electrical examination of coatings, 'Null' methods, determination of current required, concepts and methods of cathodic protection and preventive maintenance by inspection. The newcomer and long-time worker on underground corrosion problems alike will find these papers include useful information."

Penrose, H. E., & **Boulding,** R. S. H.

Principles and practice of radar. Ed.5. 795p. 1956. Newnes, London, 50s. net.

Shipbuilder and marine engine-builder, Aug. 1956, p.531. ⅓ col.

"This new and thoroughly revised fifth edition now summarises the three chapters on basic principles occupied in former editions into a single chapter, and uses the space saved to amplify other parts of the book known to be of more practical value. The use of higher frequencies in modern radar installations has resulted in more detailed treatment of those parts dealing with microwave radar, and some curtailment of those parts dealing with longer wave-lengths."

Pichler, A. A. Benedetti-. See **Benedetti-Pichler,** A. A.

Precision electrical measurements. 1956. Philosophical Library, New York, $12.

Automotive industries, Aug. 15, 1956, p.158. ⅛ col.

"This collection of 26 papers, which was originally presented at an international symposium held in England, has at [sic] its general theme the techniques of precision electrical measurement . . . The papers deal with techniques applicable to electrical fields and dielectrics, magnetic fields and associated materials, electro-technical measurements, and standard techniques for high voltage measurement and for impulse testing. The papers are unabridged, and summarized discussions appear at the end of each part . . . Profusely illustrated with half-tones and line drawings."

Rostand, Jean, & **Bodin,** Paul.

Life, the great adventure. 228p. 1956. Scribner's, New York, $3.50.

Science, Aug. 31, 1956, p.410. 1¼ col.

"[Rostand] does not indulge in describing the mechanism of heredity or of hormonal action, nor does he spend much time on setting the philosophers, politicians, or theologians right, except in details that touch upon biological topics. What he attempts is to give an up-to-date account of what a biologist believes concerning great biological questions . . . The scientist and nonscientist alike should find this enjoyable reading. The biologist may disagree with parts and may wish to amplify other parts, but both will be induced to wander to future horizons of biology with their feet firmly planted on the ground of present knowledge." *Haig P. Papazian.*

Rothbart, Harold A.

Cams; design, dynamics, and accuracy. 350p. 1956. Wiley, New York, $9.50.

Machine design, Aug. 23, 1956, p.232. ¼ col.

"Directed primarily to machine designers and should be useful as well to students of mechanical engineering and instructors . . . Initial chapters cover basic curves, cam size and profile determination, additional cams and followers, and advanced curves. Later chapters cover polydyne cams, the dynamics of high-speed cam systems, force analysis, surface materials and accuracy, special cams and applications."

Midwest engineer, Aug. 1956, p.26. ½ col.

"This up to date approach to cam analysis, emphasizing the basic use of cams in computation, should prove valuable for the designer who is interested in contriving a mathematical function, motion, mechanism, machine, or mechanical computer. Mechanical engineering students and instructors will also find it most helpful." *R. G. G.*

Ruddle, R. W.

The running and gating of sand castings; a review of the literature. 183p. 1956. Institute of Metals, London, $3.75.

Foundry, Sept. 1956, p.193. ¼ col.

"Many of the defects found in sand castings are caused by the use of unsatisfactory methods of running and gating. Research workers have devoted considerable attention to the subject and have made numerous studies of the flow of metal in commonly used gating systems, and of fundamental principles involved, with the object of placing design of gating systems on a scientific basis. The author . . . reviews the results of these studies and gives details of methods by which the rate of flow of metal in gating systems may be computed from their geometry."

Schall, W. E.

X-rays; their origin, dosage, and practical application. Ed.7. 331p. John Wright & Sons, Ltd., 42s.

Welding and metal fabrication, Sept. 1956, p.321. 1⅗ col.

"Of the 15 chapters, the author states that 10 are intended for all radiographers, whether engaged on medical or industrial X-ray work; but the tendency is definitely towards the medical aspects. Other chapters are concerned with X-rays in medical diagnosis, in therapy and in industry respectively; the remaining two are devoted to protection and various tables . . . For the person interested in radiography in all its aspects, the book contains a wealth of useful information on the physical and electrical aspects. For the student in medical radiography, it would be a valuable acquisition but it will not meet the needs of the industrial radiographer who in any case, will be overwhelmed by preponderance of detail for medical radiographers." *L. M.*

Schrödinger, E.

Expanding universes. 93p. 1956. Cambridge, New York, $3.50.

American journal of physics, Sept. 1956, p.472. ⅓ col.

"Even though the book is only 93 pages long, there are no words wasted and a considerable familiarity with cosmological theory is necessary for a proper understanding of its contents." *Saul A. Basri.*

Science, Aug. 24, 1956, p.370. ⅔ col.

"This lucid series of lectures is concerned with the kinematics of particles and waves in an expanding universe. The first two chapters present an interesting exposition of the geometric properties of the de Sitter universe and general spherical spaces . . . The other two chapters deal with a question that led historically to the development of wave mechanics —that is, the relationship between geometric optics, wave optics, and the Hamilton-Jacobi equation . . . Distinguished throughout by its delightful clarity, its constant emphasis on geometric visualization and its unhurried style." *C. N. Yang.*

Schure, Alexander.

Blocking oscillators. 72p. 1956. John F. Rider, New York, $1.25 unbound.

Popular electronics, Sept. 1956, p.24. ⅛ col.

"Blocking oscillators, widely used as starting or triggering circuits in many special applications, are explained and illustrated in this compact volume. Mathematics has been kept to a minimum; the text here is for technicians, students, and experimenters whose work demands an understanding of basic concepts . . . An introduction for the beginner, and . . . a review for the advanced technician."

Scientific American.

The new astronomy. 243p. 1955. Simon, New York, $1 unbound.

Chemical bulletin, Sept. 1956, p.15. ⅛ col.

"A collection of twenty articles which originally appeared in the *Scientific American* (1948-1954), covering these sections: the structure of the universe, the shape and dynamics of space, our own galaxy, stars, the sun and its satellites, and photocell and radio telescopes . . . Illustrated with sketches and drawings . . . The absence of photographs . . . in no way detracts from the enjoyment and satisfaction that will be had by anyone who reads 'The New Astronomy' . . . Highly recommended to anyone who wishes 'to feel more at home in the universe of our times'." *Leo R. Idaszak.*

Seelye, Elwyn E.

Foundations design and practice. 485p. 1956. Wiley, New York, $16.

Engineering news-record, Aug. 23, 1956, p.77. 1⅛ col.

"Intended to be as useful to the designer as to the field man. Therefore, the arrangement of its contents, tailored to meet this objective, is rather unusual . . . Experienced engineers, using this volume for reference purposes, may find this arrangement advantageous. But students and beginners may be confused . . . Seelye writes with authority, briefly and to the point. He has illustrated the book well. He has drawn on his vast experience not only to advise engineers on what to do in foundation work, but also has incorporated recommendations on what not to do."

Mines magazine, Aug. 1956, p.59. ⅜ col.

"Provides up-to-date information on all phases of foundation work, including subsurface exploration, inspection, foundation reports, specifications, estimates, contracts, and design. Completely authoritative, it is written by a man who has probably designed more building foundations than any other living engineer."

Public works, Sept. 1956, p.62. ⅛ col.

"This book begins with elementary material and then goes on to give the do's and don'ts of successful foundation design and practice. Broad in scope . . . Throughout the volume, hundreds of worked-out drawings clarify the text material."

Sellon, William A.

Industrial arts arc welding. 56p. James F. Lincoln Arc Welding Foundation, Cleveland, 25c. (Foreign, 50c.).

American machinist, Aug. 13, 1956, p.242. ⅛ col.

"The author . . . tells why and how welding can be taught as a unit, and how it can be incorporated in different types of shops. This is not a text or instruction manual, but rather an introduction to the subject for administrators, teachers, and students. The equipment and teacher training needed, and the various methods of teaching are discussed. A special chapter deals with safety precautions, and there is an excellent bibliography of texts, references, aids, and project material."

Shepherd, D. G.

Principles of turbomachinery. 463p. 1956. Macmillan, New York, $10.

Engineer, Aug. 3, 1956, p.159. ⅔ col.

"A very interesting account of rotative machinery operating with continuous fluid flow . . . Treatment is complete and balanced, and while requiring some knowledge of thermodynamics and aerodynamics, the book does give references to the many texts which can be consulted for further information . . . Can be recommended as a thorough and stimulating description of the underlying principles in the design of all types of turbo-machinery . . . Information given is up-to-date and reliable."

Heating & ventilating engineer and journal of air conditioning, Aug. 1956, p.102. ⅓ col.

"Professor Shepherd's purpose is to outline the basic principles underlying all forms of turbomachinery and to analyse the mechanics of particular types. In this he succeeds, within limits, though the origins of *Principles of Turbomachinery* in lecture notes is evident by the rather disjointed progress of his treatment. When dealing with practical applications of turbomachinery Professor Shepherd does not enter into discussion of design . . . We miss . . . consideration of design problems on which he should have much valuable advice to give."

Marine engineering and the log, Aug. 1956, p.112. 7 l.

"Seeks to outline the guiding principles underlying all forms of turbomachine and to present a somewhat detailed analysis of the most important particular types from the viewpoint of the mechanical engineer. The author introduces a unified treatment of turbomachines, including pumps, fans, compressors and steam, gas, and hydraulic turbines."

Shreve, R. Norris.

Chemical process industries. Ed.2. 1004p. 1956. McGraw, New York, $11.50.

Chemical engineering, Aug. 1956, p.380. 1⅔ col.

"Professor Shreve has had a lot of catching up to do in revising his book. He's done a commendable job . . . He emphasizes broad process principles not details . . . For the student, this treatment is adequate . . . For the practicing engineer, this broad approach isn't nearly as useful as specific intimate process details. But the book can help him with information on industries outside his field of specialization . . . Provides references to detailed articles . . . There is no book that compares with Shreve. For anyone working in the chemical process industries, it's a must for the reference shelf." *R. B. N.*

Petroleum engineer, Sept. 1956, p.E-40. 12 l.

"A reference to methods used in the manufacture of chemicals and chemical products, broken down into unit processes and operations by convenient flow sheets . . . Covering the manufacture of chemicals themselves with full description of many manufacturing industries based on important chemical changes, this second edition contains illustrations, hundreds of tables and flow sheets with typical problems, to present an easy reference of each process, and the entire chemical process industry."

Sittig, Marshall.

Sodium; its manufacture, properties and uses. 529p. 1956. Reinhold, New York, $12.50. (American Chemical Society. Monograph series, no.133.)

Petroleum processing, Sept. 1956, p.179. 1⅝ col.

"Mr. Sittig would seem well qualified to undertake this comprehensive job . . . He has authored 13 technical articles on the subject and is now in sodium sales development work at Ethyl. Also, he was chairman of the symposium on handling and uses of the alkali metals at the ACS meeting last spring. The more precise scope of his book is metallic sodium, for the nonmetallic compounds—sodium chloride, hydroxide, and carbonate, for instance—are not included."

Sleeper, Harold R.
Building planning and design standards. 331p. 1955. Wiley, New York, $12.

Engineering news-record, Sept. 6, 1956, p.102. ⅓ col.

"This reference volume is chockful of information on various types of building that most designers would have to spend considerable research time to obtain. It supplements 'Architectural Graphic Standards,' by Sleeper and Ramsay. The difference between the two works is that the older one principally gives data on the physical characteristics of building materials and installed equipment, whereas the new book covers functional relationships and space requirements and typical layouts for specific building types. Included in its wide coverage are small homes, motels, hotels, schools, office buildings and theaters."

Smith, J. L. B.
Old fourlegs; the story of the Coelacanth. 260p. 1956. Longmans, New York, 21s. net.

Nature, Aug. 18, 1956, p.339. ½ col.

"A popular account of the discovery of the Coelacanth as a living fish. It is also a record of the intellectual agonies suffered by a sensitive man of science when confronted with a phenomenon which made nonsense of his previous academic training and experience. Smith tells not only of the way in which the first fish was brought to his notice and of the way in which he pursued the second but also of his investigations, which showed that this animal was no denizen of the deep, as suggested by many authorities, but lived in the reefs off the remote Comoro archipelago approximately midway between Portuguese East Africa and northern Madagascar . . . The story is not well told but is so romantic in itself that the telling scarcely matters." *T. H. Hawkins.*

Smith, M. L., ed.
Electromagnetically enriched isotopes and mass spectrometry. 272p. 1956. Butterworth & Co., (Publishers), Ltd., 88 Kingsway, London, W.C.2, 45s. net.

Journal of the Royal Institute of Chemistry, Aug. 1956, p.468. ½ p.

"Contains a record of the thirty papers and the discussion that followed their presentation at a conference at Harwell in September, 1955 . . . The standard of production of the volume is high, and the reproduction of the diagrams and photographs is excellent. A useful index has also been included. The volume is probably of greater interest to physicists than to chemists because of the rather specialised topics with which it deals." *C. Kemball.*

Smith, Ralph J.
Engineering as a career. 376p. 1956. McGraw, New York, $4.75.

Engineering news-record, Sept. 6, 1956, p.102, 104. 1 col.

"Although the combined text and problem book has been designed primarily for use in a freshman orientation course, it also offers good reading for anyone contemplating an engineering career. Some portions of the book, such as Chapter 8 on the economic status of engineers, present information that will be of interest to older engineers as well . . . Assignments are given at the end of each chapter for course work. In many instances the student is required to work out actual elementary engineering problems. Text is written in a clear and concise manner, and there are many photographs and drawings."

Stevens, Edward F.
Ocean carriage. 101p. 1956. Philosophical Library, New York, $4.75.

Modern materials handling, Sept. 1956, p.50. ½ col.

"The broad scope of the subject makes it obvious that the text cannot be complete in so small a book, and the author hastens to make this point clear in the preface. Rather, he contends, it is intended as a working handbook for those who wish to go deeper into the subject of the ocean carriage of goods."

Taylor, William T., & **Weber,** R. J.
General botany. 376p. 1956. Van Nostrand, Princeton, N. J., $5.75.

Nature magazine, Aug.-Sept. 1956, p.391. ⅓ col.

"Excellent brief work for one-semester course. Refreshingly different approach. All new, original illustrations by Wilma Riley. Morphology and physiology in first half, taxonomy in second, terminal chapters on genetics, evolution. Metabolism especially well covered; mitosis, meiosis look quite different in modern dress; algae, fungi carefully explored. Where suitable, illustrations are stereoscopic, using phantom interiors; many of these very effective; we liked particularly the fine and numerous life history charts. Authors' obvious aim—praiseworthy to us—is brevity; resulting style sometimes cramped, monotonous; fact crammed upon fact; but material is there, up-to-date, competent."

Ubbelohde, A. R.
Man and energy. 247p. 1955. George Braziller, New York, $5.

Scientific monthly, Sept. 1956, p.166. 1 col.

"The first part of the book, entitled 'Growth of power,' traces the growth of man's control over energy. This part contains both a brief historical account and a collection of illustrative tables . . . The second part . . . entitled 'Growth of knowledge,' traces the growth of man's understanding of the control of energy. An account is given of thermodynamics and the interpretation of thermodynamics in terms of molecular behavior (statistical thermodynamics) . . . There are many interesting facts and stimulating ideas in this brief book. It should be read with profit by scientist and nonscientist alike." *John L. Magee.*

Udy, Marvin J., ed.

Chromium. 2v. v.1: Chemistry of chromium and its compounds. 1956. Reinhold, New York, (American Chemical Society. Monograph series, no.132.)

Automotive industries, Aug. 15, 1956, p.158. ⅛ col.

"A two-volume monograph on chromium which brings together the latest accurate data on the sources, properties, manufacture and use of metallic chromium, chromium alloys, and chromium chemicals. Volume I, which deals with the chemistry of chromium and its compounds was written by 30 men each of whom has special experience in the particular phase of the subject with which he deals . . . Includes chapters on the history of chromium, its minerology [sic] and geology, the physical and chemical properties of its compounds, and on the various industrial uses of chromium chemicals."

Underwood, E. J.

Trace elements in human and animal nutrition. 429p. 1956. Academic Press, New York, $9.50.

Nature, Sept. 1, 1956, p.441. 1 col.

"In writing this book the author has considered iron, copper, cobalt, molybdenum, nickel, zinc, manganese, iodine, fluorine and selenium in some detail, and dealt briefly with aluminium, arsenic, barium, strontium, boron, bromine, silicon and vanadium. His interpretation of the word 'nutrition' has been a very wide one . . . The physiology of the trace elements would have been a more descriptive title for the book, and people interested in any aspects of the subject would do well to consult it . . . The book is a good one, worth reading from cover to cover, and there is a good author and subject index." *R. A. McCance.*

Vajda, S.

Theory of games and linear programming. 106p. 1956. Wiley, New York, $2.

Control engineering, Sept. 1956, p.331. 1¼ col.

"Almost all of the published books on linear programming and game theory have been too comprehensive and too profoundly mathematical for the scientist or engineer seeking a concise introduction to the two topics. Here is a short work, though, which combines simplicity with elegance to serve as an excellent primer in linear programming and game theory . . . The reviewer recommends this book to anyone who seeks a basic knowledge of linear programming—either in its special aspect of game theory or as a powerful analytic tool."

Vogel, Arthur I.

Textbook of practical organic chemistry, including qualitative organic analysis. Ed.3. 1188p. 1956. Longmans, New York, $12.

Industrial chemist, Aug. 1956, p.342. 1⅛ col.

"Not only is . . . [the author's] work very comprehensive but it is extremely accurate, a most essential quality in a practical text. Moreover each new edition is brought up-to-date with the judicious introduction of new methods and data . . . This essentially practical book gives reliable information about a great many aspects of modern organic laboratory work. The fact that it is constantly in use by research workers as well as by undergraduates is a clear testimony to its universal value." *A. McGookin.*

Walker, Alex J., ed.

Public address and sound distribution handbook. 160p. 1956. Newnes, London, 21s. net.

Electrical journal, Aug. 10, 1956, p.423. ¼ col.

"Provides practical guidance on the planning, installation and maintenance of modern electronic sound amplification and distribution equipment . . . A very useful addition to one's bookshelf . . . Well produced and profusely illustrated, but certain minor improvements are necessary in connection with the use of correct terminology."

Electrical review, Sept. 7, 1956, p.413. ½ col.

"For the less experienced person this book presents an informative guide to the subject but it would have been desirable to have been given more of the fundamental aims of the art of sound reinforcement. References to technical papers and other publications would have helped the discerning engineer seeking further knowledge of some of the more specialised aspects." *J. L. G.*

Walker, Robert Tunstall, & **Walker,** W. J.

Origin and nature of ore deposits. 384p. 1956. Walker Associates, Box 1068, Colorado Springs, Colo., $6.50.

Economic geology, Sept.-Oct. 1956, p.603. ¾ p.

"The general arrangement . . . and method of treatment are somewhat unusual, and a little confusing. The authors discard liquids as mineralizing agents of hydrothermal solutions and consider that ore deposition takes place by gases and vapors. Throughout the volume the pneumatolytic theory underlies all discussions . . . Many parts of the book will raise eyebrows. There are many very excellent illustrations." *A. M. B.*

Engineering and mining journal, Sept. 1956, p.134. 8 l.

"An outstanding piece of work by two former working geologists covering the origin of: fissures, mantos; pipes; irregular masses; basic and silicic rock; copper, quartz, iron, uranium ore bodies. The authors attempt to resolve the conflict between theory and fact, offer reasonable explanations of the origin of certain deposits. Additional chapters cover indicator gangue minerals for sulphide deposits and exploration practice."

Warren, Arnold.

Let's learn to fly. 220p. 1956. Pitman, London, 18s.

Journal of the Royal Aeronautical Society, Aug. 1956, p.558. ½ col.

"The chapter sequence is logical, from a discussion of elementary mechanics, via lift and drag to controls, stalling, take-off and landing, and spinning, to the first solo. The style is easy, and the treatment, almost everywhere, sound. Some of the facts quoted would not

be true of all aeroplanes, but the author is clearly sketching and thinking of the Chipmunk." *A. H. Yates.*

Watkins, John V.

ABC of orchid growing. Ed.3, revised. 190p. 1956. Prentice-Hall, Englewood Cliffs, N. J., $3.50.

Garden journal of the New York Botanical Garden, Sept.-Oct. 1956, p.162. ⅓ col.

"This newly revised book is the finest I have read, and I certainly recommend it as a *must* for all amateur orchid growers . . . Simply written and illustrated and covers every stage of orchid culture from the time of selecting good plants to the cutting and packing stage . . . If you are an amateur and just starting out as an orchid collector or a well-established orchid hobbyist, you will value this book as an indispensable guide to keep on your bookshelf." *Martha M. Doig.*

Watson, Fletcher G.

Between the planets. Revised edition. 1956. Harvard Univ. Press, Cambridge, Mass., $5.

Scientific American, Sept. 1956, p.254, 256. ⅙ col.

"A revised edition of Dr. Watson's book on the small fry of the solar system. He offers an up-to-date, concise but remarkably comprehensive account of the thousands of little bodies that move around the sun (principally in the region between the orbits of Mars and Jupiter); asteroids, comets, meteorites and dust. An attractively written and instructive volume for amateurs and professionals. Fine illustrations."

Weaver, J. E., & **Albertson,** F. W.

Grasslands of the Great Plains. 385p. 1956. Johnson, Lincoln, Neb., $6.50.

Science, Sept. 7, 1956, p.444. 2 col.

"Weaver and Albertson have shown the recuperative power of grassland under normal adventures such as fire, drouth, and grazing by the natural fauna, [and] they have shown with equal clarity how vulnerable it is to continued misuse by man. Even better they have shown that wise and moderate use is possible and, in the end, the most profitable course. Their demonstration of the maximum value of the natural grasslands for judicious grazing makes their book an important economic, no less than scientific document." *Paul B. Sears.*

Weissberger, Arnold.

Chemical applications of spectroscopy. 787p. 1956. Interscience Publishers, New York, $15. (Techniques of organic chemistry, v.9.)

Chemistry in Canada, Aug. 1956, p.68. ⅜ col.

"As a volume in a series on Techniques of Organic Chemistry and from its title, one might have expected this book to deal primarily with applied spectroscopy of interest to organic chemists. The chapter by Dr. Jones and Dr. Sandorfy does indeed fulfil this expectation. The other chapters, however, are almost entirely theoretical in content, written with the purpose of introducing chemists to the fundamental interpretation of spectra." *H. J. Bernstein.*

Wells, Harrington, & **Wells,** Patrick.

General biology. 520p. 1956. McGraw, New York.

Bulletin of the Torrey Botanical Club, July-Aug. 1956, p.312. 7 l.

"Well suited for life science or survey courses to be presented in a general education program . . . Includes the fundamentals of botany and zoology. For educators seeking a book of this type with emphasis on 'biology *for* human beings and *not* human biology' the authors have provided an excellent text . . . Exceptionally well illustrated and contains questions and problems for group discussions and reviews." *W. T. Ward.*

Wilkes, M. V.

Automatic digital computers. 305p. 1956. Wiley, New York, $7.

Control engineering, Sept. 1956, p.336, 339, 341. 2⅝ col.

"An excellent general introduction to the major principles which underlie the design and use of digital computers . . . Stresses the subject generally known as 'logical design' and does not obscure it by too many details about electronic circuit techniques. Also covered are the way in which programs are formulated and methods by which the machine itself can be made to lighten the labor of the programmer . . . The reviewer . . . finds this one of the best-integrated and most-intelligible books on automatic digital computers that has appeared to-date. Because of its nature, however, he does not believe it is suited as a classroom textbook for an engineering course in digital computers, but considers it most valuable for complementary reading." *Thomas J. Higgins.*

Wills, John A.

Fiber glass auto body construction simplified. Ed.2. 96p. 1955. Dan R. Post Publications, Arcadia, Calif., $3.

Tooling and production, Sept. 1956, p.115. ⅛ col.

"This greatly improved and enlarged book gives clear and complete coverage of the processes involved in fabricating fiber glass automobile bodies. The author, with the experience of a special background in laminates, developed the practical production method for cold cure or promoter processes of production with polyester resins, as well as the glass fiber female molding system—two universally accepted processes which make this type of production possible."

Wills, Leonard J.

Concealed coalfields; a palæogeographical study of the stratigraphy and tectonics of mid-England in relation to coal reserves. 208p. 1956. Blackie, London, 40s. net.

Colliery engineering, Aug. 1956, p.350. ⅜ col.

"[The author] makes full use of paleogeography, and to explain his interpretation of the data he divides the history into a number of paleogeographical stages called 'palstages.' By this means the author has attempted to record the changing geography of mid-England . . . during late Carboniferous, Permian, and Triassic times. Maps purporting to depict the

science at a number of stages are published to illustrate his points . . . Standard of presentation of both illustrations and text is excellent, and the publishers are to be congratulated on achieving such a fine quality at the modest price asked for the book."

Iron & coal trades review, Aug. 24, 1956, p.460. 1 col.

"Part I covers palæogeographical control of the distribution of coalfields, giving a general outline of the development of the concealed coalfields with a table showing the zonal classification of the Coal Measures in relation to palstages, while another is a tentative regional classification of the palstages and strata belts in relation to the usual stratographical subdivisions and palæontological zones. Part II deals with the distribution and accessibility of the top of the coal belt, while Part III discusses the all-important subject of accessibility of workable coal in the concealed coalfields . . . The volume bears evidence of extremely painstaking preparation, and of an intense desire to penetrate the veil which so far has precluded a final estimate of our total coal reserves . . . Should find a prime place among standard works of geological importance."

Nature, Sept. 8, 1956, p.507. 2⅔ col.

"This book with its original presentation makes a fundamental contribution to geological science, and its methodology constitutes an all too rare occasion in geological literature. There are criticisms which may be directed at the terminology and correlation, but these are outweighed by the value of the broader palæogeographical contribution. Similarly, diagnosis may often be a fickle jade, but it has to be made; better a reasoned hypothesis than even an inspired guess. Here is a pattern derived from the accumulated evidence of geological research in all its aspects, whether these be considered as 'pure' or 'applied'; and that pattern not only indicates the value of such scattered research, but also provokes an inspiring challenge to those concerned with the resources and possible future developments of an important national asset." *L. R. Moore.*

Wilson, C. W.

Radium therapy; its physical aspects and extensions with radioactive isotopes. Ed.2. 286p. 1956. Bailliére, London, 37s. 6d.

British journal of applied physics, Aug. 1956, p.311. ½ col.

"Published in 1948 and since that time has become a standard textbook for use by postgraduate students of radiology. It was inevitable that the author should consider revising it in the light of the many additions to the armoury of the radium therapist made possible by the production of radioactive isotopes in the atomic reactor . . . It is a pity . . . that radioactive iodine is omitted, owing to the author's rather restricted definition of radiotherapy, and the opportunity thus lost of covering all aspects of therapy with radioactive materials . . . This is in every way a well-produced book and may be thoroughly recommended." *W. A. Langmead.*

Wool Industries Research Association.

Wool research. v.2: Physical properties. 234p. 1956. The Association, Leeds, England, 30s.

British journal of applied physics, Aug. 1956, p.311. ⅝ col.

"Based largely on papers published by the association, but the material has been rewritten with the object of producing a book acceptable to both the textile technologist and the textile scientist. This object should have been achieved, for the material has been admirably co-ordinated and condensed, and the type and layout make for easy reading. Those who doubt the value of basic research in a long-established industry might well study the relations between theory, laboratory experiment, and practical application shown in this and other books in the series." *J. Pollitt.*

Wright, Forrest B.

Rural water supply and sanitation. Ed.2. 363p. 1956. Wiley, New York, $4.96.

Wastes engineering, Sept. 1956, p.431. ¼ col.

"The 252 pages of Part One cover plumbing systems for homes and farms, sewage and garbage disposal, pumping, maintenance of water systems, water treatment, etc. Part Two gives practical details of how to install and maintain water supply and disposal systems, including information on building cesspools and seepage pits, laying sewer and drainage tile, cutting cast iron soil pipe, caulking joints, repairing toilet tanks, etc. Both parts are profusely illustrated with photographs, diagrams and drawings."

- We are in a position to supply the items listed above.
- Extensive search service for out-of-print books.
- Subscriptions to all periodicals, domestic and foreign.
- We purchase libraries — large and small — sets or runs of periodicals.

Stechert-Hafner's monthly list "Science and Technology" will be sent on request.

STECHERT-HAFNER, Inc.

Founded in New York 1872

The World's Leading International Booksellers

31 EAST 10TH STREET NEW YORK 3, N. Y.